

Title	Demonstrate knowledge of textile fibres		
Level	4	Credits	15

Purpose	People credited with this unit standard are able to demonstrate knowledge of: the origins of natural textile fibres; the properties and characteristics of animal fibres; and vegetable fibres; natural fibre identification tests; the production process of manufactured textile fibres; the properties and use of manufactured fibres; and manufactured textile fibre identification tests.
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Classification	Textiles Manufacture > Core Yarn Processing
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Available grade	Achieved
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Guidance Information

None.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of the origins of natural textile fibres.

Performance criteria

1.1 Natural textile fibres are classified by generic type and source.

Range generic type – animal fibres, vegetable fibres;
source – wool, hairs, furs, insect (silk), seed, bast, leaf.

Outcome 2

Demonstrate knowledge of the properties and characteristics of animal fibres.

Range wool, goat fibres (mohair, cashmere, angora), cameloid fibres (alpaca, vicuna, llama), insect fibres (silk).

Performance criteria

2.1 The characteristics of animal fibres are described and compared.

Range characteristics – animal breed, fibre fineness, fibre length, crimp and scale structure for wools and hairs, fibre formation of silk.

2.2 The properties and textile end uses of animal fibres are described and compared.

Range properties – strength and elasticity, moisture absorbency and regain, thermal properties, dye affinity, reaction to chemicals; end uses – two end uses that illustrate the typical textile use of the fibre.

Outcome 3

Demonstrate knowledge of the properties and characteristics of vegetable fibres.

Range cotton, linen, jute, ramie.

Performance criteria

3.1 The characteristics of vegetable fibres are described and compared.

Range characteristics – types (for cotton), fibre fineness, fibre length, fibre structure.

3.2 The properties and textile end uses of vegetable fibres are described and compared.

Range properties – strength and elasticity, moisture absorbency and regain, thermal properties, dye affinity, reaction to chemicals; end uses – two end uses that illustrate the typical textile use of the fibre.

Outcome 4

Demonstrate knowledge of natural fibre identification tests.

Performance criteria

4.1 Natural fibre identification tests are described in terms of test methods and results.

Range fibres – wool, cotton, cashmere, mohair, linen, jute; tests – visual, chemical, physical.

Outcome 5

Demonstrate knowledge of the production process of manufactured textile fibres.

Performance criteria

5.1 The chemicals and extrusion process used for producing manufactured fibres is described.

Range fibres – polyamides, polyester, acrylic, polypropylene, viscose; extrusion process – wet spinning, dry spinning, melt spinning.

5.2 The post-extrusion processes and changes imparted to the fibre are described in terms of function and operation.

Range post-extrusion processes – drawing, conversion of tow to staple, texturising, production of high-bulk.

Outcome 6

Demonstrate knowledge of the properties and use of manufactured fibres.

Range nylon 6, nylon 6.6, polyester, acrylic, polypropylene, viscose, elastomeric.

Performance criteria

6.1 Manufactured fibres are described and properties and end uses compared.

Range properties – strength and elasticity, moisture absorbency and regain, thermoplasticity, thermal properties, dye affinity, reaction to chemicals; end uses – two end uses that illustrate the typical textile use of the fibre.

Outcome 7

Demonstrate knowledge of manufactured textile fibre identification tests.

Performance criteria

7.1 Fibre types and fibre characteristics are described in terms of test methods and expected results.

Range fibres – nylon 6, nylon 6.6, polyester, acrylic, polypropylene, viscose; tests – visual, chemical, physical.

Replacement information	This unit standard replaced unit standard 5876 and unit standard 5877.
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This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	19 May 2016	31 December 2023
Review	2	24 March 2022	31 December 2023

Consent and Moderation Requirements (CMR) reference	0030
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

This unit standard is expiring